II. "On the Fossil Mammals of Australia.—Part VII. Genus *Phascolomys*; species exceeding the existing ones in size." By Prof. R. Owen, F.R.S. Received March 25, 1872.

(Abstract.)

The author, referring to a former communication, in which the osteological and dental characters of the existing kinds of Wombat were applied in the determination of the fossil remains of extinct species resembling the living ones in size, proceeds in the present paper to give the evidences which have reached him of species of *Phascolomys*, formerly existing in Australia, exceeding in size any that are now known to live there.

The extinct species so reconstructed are described in the order in which they progressively predominate in bulk over the existing Wombats. They are referred to *Phascolomys medius*, *Phascolomys magnus*, and *Phascolomys gigas*.

The characters of these species are shown, not only by the size of ascertained adult and aged individuals, but by modifications of shape of both upper and lower jaws, and by differences of shape and of relative proportion of certain teeth. Fossils exemplifying a moderate and seemingly determinate range of variety in different individuals and probably different sexes are noticed, and the evidences of some of these varieties of the largest extinct species are figured.

In his concluding remarks the author notices that, in the case of the genus *Phascolomys*, as in that of other genera of which an adequate number of fossil evidences have been acquired, the number of species which have passed away exceeds that of the known living ones.

Of the latter the growth of knowledge has been rapid and comparatively recent, and all the species adhere to the size compatible with the burrowing habits of the first observed Wombat (*Phascolomys fossor*, Wagner). But a like habit and power of concealment cannot safely be ascribed to the larger extinct Wombats. "If," remarks the author, "we knew the Hare only by fossil remains, we should err in attributing to it the underground retreat and way of life of the Rabbit."

The evidence adduced in the present paper shows that all the larger kinds of Wombat have perished. The author, in reference to the cause of extirpation, refers to his remarks on the conditions affecting the contest for existence, as applied to the larger extinct wingless birds of New Zealand, and observes that the comparatively diminutive representative of *Dinornis*, viz. the *Apteryx*, escapes pursuit and observation by being able to avail itself, like the small existing Wombats, of an underground retreat. The paper concludes with reference to the bearings of its subject on other generalities.